(19) World Intellectual Property **Organization**

International Bureau





(43) International Publication Date 25 August 2005 (25.08.2005)

PCT

(10) International Publication Number WO 2005/078917 A1

(51) International Patent Classification⁷: H03F 1/02

(21) International Application Number:

PCT/SE2004/000213

(22) International Filing Date: 17 February 2004 (17.02.2004)

(25) Filing Language:

English

(26) Publication Language:

English

- (71) Applicant (for all designated States except US): TELE-FONAKTIEBOLAGET LM ERICSSON (publ) [SE/SE]; S-126 25 Stockholm (SE).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): VEJZOVIC, Hamid [SE/SE]; Älvdalsvägen 147, S-165 75 Hässelby (SE).
- (74) Agent: AROS PATENT AB; P.O. Box 1544, S-751 45 Uppsala (SE).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

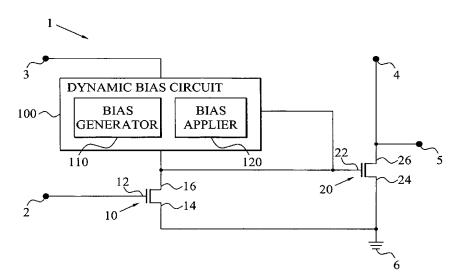
of inventorship (Rule 4.17(iv)) for US only

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DYNAMICALLY BIASED AMPLIFIER



(57) Abstract: The present invention provides dynamic biasing of transistor in an amplifier (1) comprising at least two interconnected transistor (10, 20) provided for processing an input signal. Once the input signal is applied to a driver transistor (10), a DC current signal of the output electrode (16) of this transistor (10) is detected. This DC current detection could be implemented as a detection of a voltage drop by providing the DC current signal to a resistor (130). A dynamic bias signal is then generated based on this detected DC current signal or voltage drop proportional to the DC current signal. The bias signal is applied to an input electrode (22) of a final transistor (20) for providing dynamic biasing thereof. The biasing of the invention reduces the intermodulation distortion of the final transistor (20) and amplifier (1). In addition, the biasing enables an automatic change of operation class for the transistor (20).